

History of Technology

Chronology of Landing on the Moon

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Space Journey: It lasted for eight years of US President Kennedy's vision to the first landing on the moon. There were very high technical hurdles; however, finally it was achieved. The only death accident happened on the earth.

The vision of President John F Kennedy: 25th May 1961

Shortly after 3 weeks of first space journey the US President John F Kennedy addressed in his famous speech announced before the end of the decade "There would be a man on the moon who would be certainly brought back to earth an extremely ambitious venture in view of the fact that Alan Shepard's journey with the mercury capsule Freedom 7 had finally lingered for 15 minutes and 22 seconds and it was not at all a complete revolution round the earth. However Soviet Union had already with Sputnik completed the first revolution round the earth by Yuri Gagarin and the completion of the system in cold war period took up in space journey. In five further manned starts with the single seated mercury capsule of Americans enlarged the capacity till May 1963.

John Glenn succeeded in the first real orbit flight on 20 February 1962 with Friendship 7. The last mercury mission Faith 7 lasted more than 14 hours. Gordon Cooper revolved with that round over earth 22 times. From the beginning NASA fixed up the landings in water. Therewith the capsule Liberty Bell 7 sinks on the 23rd July 1961 in the Pacific Ocean, but the astronaut Virgil Grissom could be rescued.

The Disembarker 3 June 1965

Edward White was the first US astronaut who left his spaceship Gemini 4 in earth's orbit and undertook a spacewalk. Also there were Russians who came first for several weeks. Alexei Leonovo left his spaceship Voschod 2 already on the 18th March in 1965. As the development for the new space sent of the Gemini astronauts for the first

time was taken care a stay of 30 minutes in open space. While remained then 23 minute's stay of capsule secured through a supply cable and provided with a recoil pistol. In later Gemini missions the external activities were optimized so it showed that the astronauts strongly exerted the real works outside of the capsule. First for the last mission Gemini 12 trained astronaut Buzz Aldrin the out of board insertion first of all in a watertank. A procedure which since that has carried through successfully.

Twin meets 15 December 1965

NASA named the following programme of Mercury Mission Gemini (twin). The core was a two seated space capsule with which between March 1965 and November 1966 ten manned mission occurred. Here the NASA tested foundation operations which were necessary for a journey to the moon. Out of board insertions of the astronauts belonged just so to that as the extremely important encounter and coupling maneuver in universe. Then in the meantime it was clear that a moon landing capsule of month's spaceship would be separated and later again must be a docked. That the Gemini starts occurred on time. It yielded that in the middle of December 1965 Gemini 7 with Frank Borman and Jim Lovell as well as Gemini 6 with Walter Schirra and Tom Stafford were there in orbit. The portrayed photo of meeting of both twins succeeded which finally came close up to 30 cms.

Pick-a-back to high record 19 July 1966

Shortly before the start of Gemini 10 with John Young and Michael Collins on board started a rocket whose topmost stage as also already with previous experiments was foreseen as the goal for a docking maneuver. First once the coupling of a spaceship with a target satellite worked well with Gemini 8 under the command of Neil Armstrong. However the capsule at that time managed in dangerous spin movement which could be stopped

with difficulty and led the breaking off the flight. This time everything went smooth. Jemini 10 docked and got itself controlled from the engine of aging stage up to an orbit height of 763 km over the earth surface. With that the Americans simultaneously overtook distantly the previous valid height record of Soviet Russia's Voschod 2 capsule's of 475 km. After that Jemini 10 steered also to the target satellite which had brought Jemini 8 in difficulties. In one external insertion Collins demonstrated there a photo for the measurement of micrometeorites impact.

The Catastrophe of 27 January 1967

At the beginning of January 1967 they were serious with the Apollo programme. The three-seated space capsule should smooth finally in connection with a space landing travel the way to the moon. However before the first manned Apollo mission took place during a relatively unspectacular practice in the catastrophe already on the carrier rocket assembled capsule which brought the total landing programme at the edge of being wrecked. On board the Apollo capsule fire broke out. The astronauts Virgil Grissom, Edward White a veteran of mercury time the first space walker from Jemini 4, and Roger Chaffee had no chance. They were burnt down in their space suits. That the atmosphere on board the space capsule consisted of 100% pure oxygen the fire got quash and profuse nourishment. Special safety precautions were not adopted because they held the test as no dangerous. The death of the three astronauts injured the USSA to deep shock condition. However the NASA investigated the incident with intensive responsibility. As a consequence it gave numerous changes as for example not only in the rising lapse but also with the procedure, mode of operation and safety i.e. precautions. They took time and utilized several unmanned Apollo starts for intensive tests. With Apollo 7 then started on 22nd October 1968 the three astronauts first of all in the earth's orbit.

The Moon rocket 16 July 1969

The past Wernher von Braun as chief of V2 rocket in Nazi Germany was the same to the Americans in cold war. They celebrated the developments of the rocket which on 16 July 1969 started for the first landing on the moon and before in general first for the three manned mission was utilized. The Saturn V was rocket of superlative. Above 110 metre high, it consisted of three stages. The first was of five engines set out for journey of which

each one weighed over 8 tons, 5.6 metre high and had 3.7 m diameter. First the third stage fired the rocket from one earth's orbit in the path to moon which they accomplished without support from mechanism in free fall. In conical transition journey fastened to the Apollo space ship. After that the stage was ripped off, the Apollo turned 180° and coupled with the landing journey.

The Eagle has landed 20 July 1969

With the moon landing started the last leg (stage) of way to moon. Two of the three astronauts ventured in that descent from the moon's orbit where the one in the Apollo capsule waited. The astronauts controlled standing the landing flight. With Apollo 11 the landing journey carried the name Eagle. The lower part with the landing feet still stands today on the moon. Then only the upper part was started after the end of mission and with the capsule united in the moon's orbit. First then began the return journey to the earth. Neil Armstrong shot the photo after he himself as the first human being had frequented the earth satellite. It shown Buzz Aldrin leaving of the journey his spectacular step they had with Apollo 13. After an explosion in the supply portion of the capsule it served the astronauts as it were the rescue boat for the lucky home returns to earth.

Goal almost achieved 9 January 1969

The first moon landing mission which continued from the start on 16 July 1969 till the landing on the 24 July, was a worldwide media event. With that the satellite transmission and the television technique were still confined to an infant stage. It was only dull black and white pictures, which the television viewers worldwide got to see the first step of Armstrong on the moon.

'A small step for human being, however a big jump for mankind' sounded the famous words. However after Apollo 11, the died down the interest of publicity for the following six Apollo missions. Only the almost catastrophe of Apollo 13 served still once for the high shifting in quota. Additionally the Saturn V survived the Apollo mission and brought in 1973 the first space laboratory the Skylab in earth's orbit. Its last start was in 1975 for Apollo-Sojus-Mission, the soviet American collaboration. The rivalry of the cold war met in space as friendly with one another.

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